

CLAIMS

1. A composite footwear insole having a front portion
(2) for interacting with the user's foot at the
5 metatarsal region and at least partly at the plantar
arch, and a rear portion (3) for interacting with the
foot over the heel region, characterized in that said
rear portion (3) has at least one layer (4) of gel
material whose plan size is substantially equal to that
10 of said rear portion (3) and smaller than the plan size
of the entire insole to uniformly support the heel and
absorb stresses acting thereon, said gel layer (4)
having an upper surface (5) for interacting with the
heel that has no discontinuities to further increase
15 comfort.

2. Insole as claimed in claim 1, characterized in that
said gel layer (4) is made of one piece and has said
upper surface (5) visible from outside.
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3. Insole as claimed in claim 2, characterized in that
said rear portion (3) is wholly made of gel material.

4. Insole as claimed in claim 2, characterized in that
25 said rear portion (3) comprises a support base (7) made
of a semi-rigid, natural or synthetic material,
underlying said gel layer (4).

5. Insole as claimed in claim 1, characterized in that
30 said gel layer (4) is finished at least on said upper
surface (5) with a varnish which is capable of reducing
tackiness between said rear portion (3) and the heel.

6. Insole as claimed in claim 2, characterized in that said gel layer (4) has a raised peripheral edge (4) to conform to the heel anatomy and favor retention thereof.

5 7. Insole as claimed in claim 1, characterized in that said front portion (2) comprises at least one layer of transpiring material.

8. Insole as claimed in claim 4, characterized in that
10 said semi-rigid support base (7) continuously extends even at said front portion (2).

9. Insole as claimed in claims 7 and 8, characterized in that said support base (7) extends under said
15 transpiring layer at said front portion (2).

10. Insole as claimed in claim 2, characterized in that said gel layer (4) is joined to said front portion (2) by a substantially continuous connecting portion (8).
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11. Insole as claimed in claim 2, characterized in that said rear portion (3) has a one-piece appendage extending toward the plantar arch of the foot.

25 12. Insole as claimed in claim 2, characterized in that said front portion (2) comprises a gel insert (10) placed at the metatarsal region.

13. A method of manufacturing a footwear insole as
30 claimed in one or more of the preceding claims, comprising the steps of forming a front portion (2) designed to interact with the foot at the metatarsal region and partly at the plantar arch, and forming a

rear portion (3), integral with the front portion (2), and designed to interact with the heel, characterized in that it comprises the step of forming a gel layer (4), and molding it in a special mold, substantially
5 over the whole plan size of said rear portion (3) and less than the plan size of the entire insole.

14. Method as claimed in claim 13, characterized in that said gel layer (4) is co-molded with said front
10 portion (2).

15. Method as claimed in claim 13, characterized in that said gel layer (4) is co-molded with said front portion (2) and a semi-rigid support base (7).

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16. Method as claimed in claim 13, characterized in that the front portion (2) and the rear portion (3) are fabricated separately and are later joined by a substantially continuous connecting junction.

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17. Method as claimed in claim 13, characterized in that said gel layer (4) is coated at an upper surface (5) thereof with a varnish which is capable of reducing its tackiness to the heel.

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18. Method as claimed in claim 13, characterized in that a non-stick varnish is previously applied on said mold for coating an upper surface (5) of the gel layer (4) to reduce its tackiness to the heel.